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A new species of the genus *Anteon* Jurine (Hymenoptera, Dryinidae) from Thailand

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Abstract

A new species of *Anteon* Jurine, 1807 is described from Thailand, Nan Province: *A. huettingeri* **sp. n.** Morphologically the new species is similar to *A. borneanum* Olmi, 1984, *A. jurineanum* Latreille, 1809, *A. insertum* Olmi, 1991, *A. yasumatsui* Olmi, 1984, *A. sarawaki* Olmi, 1984, *A. thai* Olmi, 1984 and *A. krombeini* Olmi, 1984, but it is clearly different for the numerous sensorial processes present on the inner side of the paramere; these processes are absent in the other above species. Published identification keys to the Oriental species of *Anteon* are modified to include the new species.

Keywords

Taxonomy, *Anteon huettingeri*, Oriental region, key, Nan Province, Anteoninae

Introduction

Dryinidae (Hymenoptera, Chrysidoidea) are parasitoids of leafhoppers, planthoppers and treehoppers (Hemiptera, Auchenorrhyncha) (Guglielmino and Bückle 2003, 2010; Guglielmino et al. 2006, 2013; Guglielmino and Olmi 2013; Guglielmino and Virla 1998). *Anteon* Jurine, 1807 is a genus that is present in all zoogeographical regions (Olmi 1984; Xu et al. 2013; Olmi and Virla 2014). In total 423 species have been described from all continents (Olmi and Virla 2014) and the genus was revised at world

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level by Olmi (1984, 1991) and in the Oriental and Neotropical regions by Xu et al. (2013) and Olmi and Virla (2014) respectively.

The species of *Anteon* inhabiting the Oriental region have been recently studied by Xu et al. (2013). In total 149 species have been described from the Oriental region (Guglielmino and Olmi 2013; Xu et al. 2013).

Anteon species are parasitoids of leafhoppers belonging to Cicadellidae (Guglielmino et al. 2013). As in almost all dryinids, females of *Anteon* have a chelate protarsus. Chelae are used to capture and restrain the host during oviposition and host-feeding (Olmi 1984, 1994).

In 2014 we examined additional specimens of *Anteon* from Thailand and discovered a new species described in this paper.

Material and methods

The descriptions follow the terminology used by Olmi (1984) and Xu et al. (2013). The measurements reported are relative, except for the total length (head to abdominal tip, without antennae), which is expressed in millimetres. The following abbreviations are used in the descriptions: POL is the distance between the inner edges of the two lateral ocelli; OL is the distance between the inner edges of a lateral ocellus and the median ocellus; OOL is the distance from the outer edge of a lateral ocellus to the compound eye; OPL is the distance from the posterior edge of a lateral ocellus to the occipital carina; TL is the distance from the posterior edge of an eye to the occipital carina.

The types of all Oriental species of *Anteon* have been previously examined by the authors.

The type specimen described in this paper is deposited in the collection of the Oberösterreichisches Landesmuseum, Linz, Austria (OLL).

The description of the new species is based on the study of only a single specimen. The authors are aware that descriptions of new taxa should normally be based on more individuals. However, Dryinidae are so rare that it is uncommon to collect more than one specimen of each species. In addition, on the basis of the experience and knowledge of the authors, the new species is sufficiently delimited by unique characters to justify its description.

Results

Genus *Anteon* Jurine, 1807

Anteon Jurine, 1807: 302. Type species: *Anteon jurineanum* Latreille, 1809, by subsequent monotypy.

Diagnosis. Female: Fully winged; rarely brachypterous; occipital carina complete; palpal formula 6/3; antenna without rhinaria; forewing with three cells enclosed by

pigmented veins (costal, median and submedian); forewing with stigmal vein and pterostigma; distal part of stigmal vein much shorter than proximal part, occasionally slightly shorter, as long as, or longer than proximal part; propodeum usually with transverse keel between dorsal and posterior surface; protarsus chelate; inner side of enlarged claw with proximal prominence bearing one long bristle; tibial spurs 1/1/2. Male: Fully winged; rarely brachypterous; occipital carina complete; vertex of head usually without two oblique keels connecting posterior ocelli to occipital carina; palpal formula 6/3; forewing with three cells enclosed by pigmented veins (costal, median and submedian); forewing with stigmal vein and pterostigma; distal part of stigmal vein much shorter than proximal part, occasionally slightly shorter, as long as, or longer than proximal part; pterostigma less than four times as long as broad; propodeum usually with transverse keel between dorsal and posterior surface; paramere without inner branch wrapping penis; tibial spurs 1/1/2.

***Anteon huettingeri* Olmi, Xu & Guglielmino, sp. n.**
http://zoobank.org/9DAA0C1A-15FE-40C1-9C9F-19C9A6676F8F

Diagnosis. Male with antenna filiform; scutum very slightly granulated and finely punctate; posterior surface of propodeum without longitudinal keels; paramere without distal inner process, with inner side provided with many sensorial processes (Fig. 1).

Description. Male. Fully winged (Fig. 2A). Length 2.2 mm. Head black, except mandible testaceous. Antenna testaceous. Mesosoma black. Metasoma brown. Legs testaceous, except metacoxa partly black. Antenna filiform. Antennal segments in following proportions: 11:6:6:5:5:6:5:5:5:7. Head dull, granulated and reticulate rugose. Face with two lateral keels around orbits directed towards antennal toruli. Vertex with two short oblique keels from posterior ocelli to occipital carina. Occipital carina complete. Frontal line complete. Vertex with POL = 6; OL = 3; OOL = 4; OPL = 3; TL = 4; greatest breadth of posterior ocelli as long as OPL. Scutum shiny, very slightly granulated, finely punctate, unsculptured among punctures. Notauli incomplete, reaching approximately 0.4 × length of scutum. Scutellum and metanotum unsculptured, shiny. Propodeum with strong transverse keel between dorsal and posterior surface. Dorsal surface of propodeum reticulate rugose. Posterior surface of propodeum without longitudinal keels, with median area granulated and lateral areas reticulate rugose. Forewing (Fig. 2B) hyaline, without dark transverse bands. Distal part of stigmal vein much shorter than proximal part (2:5). Paramere (Fig. 1) without distal inner process, with inner side provided with many small sensorial processes. Tibial spurs 1/1/2.

Female. Unknown.

Material examined. Holotype: male, Thailand, Nan Province, outside Mae Charim National Park gate, 18°36.00'N, 100°58.34'E, 260 m, 13.v.2012, E. & J. Hüttinger leg. (OLL).

Distribution. Thailand.

Hosts. Unknown.

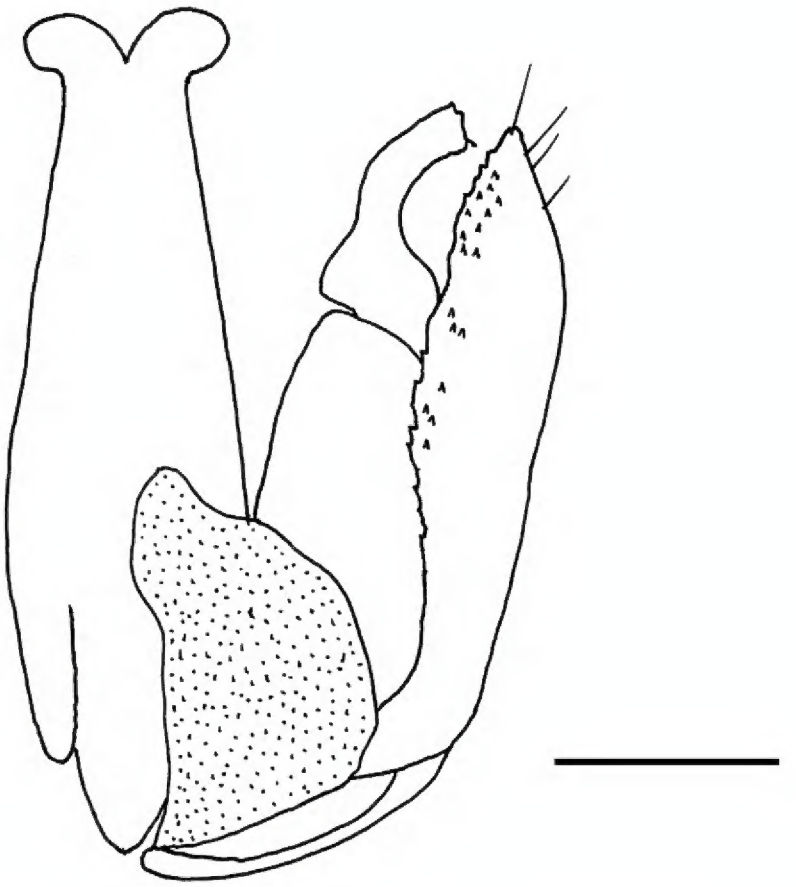

Figure 1. *Anteon huettingeri* Olmi, Xu & Guglielmino, sp. n.: male genitalia (left half removed). Scale bar = 0.06 mm.

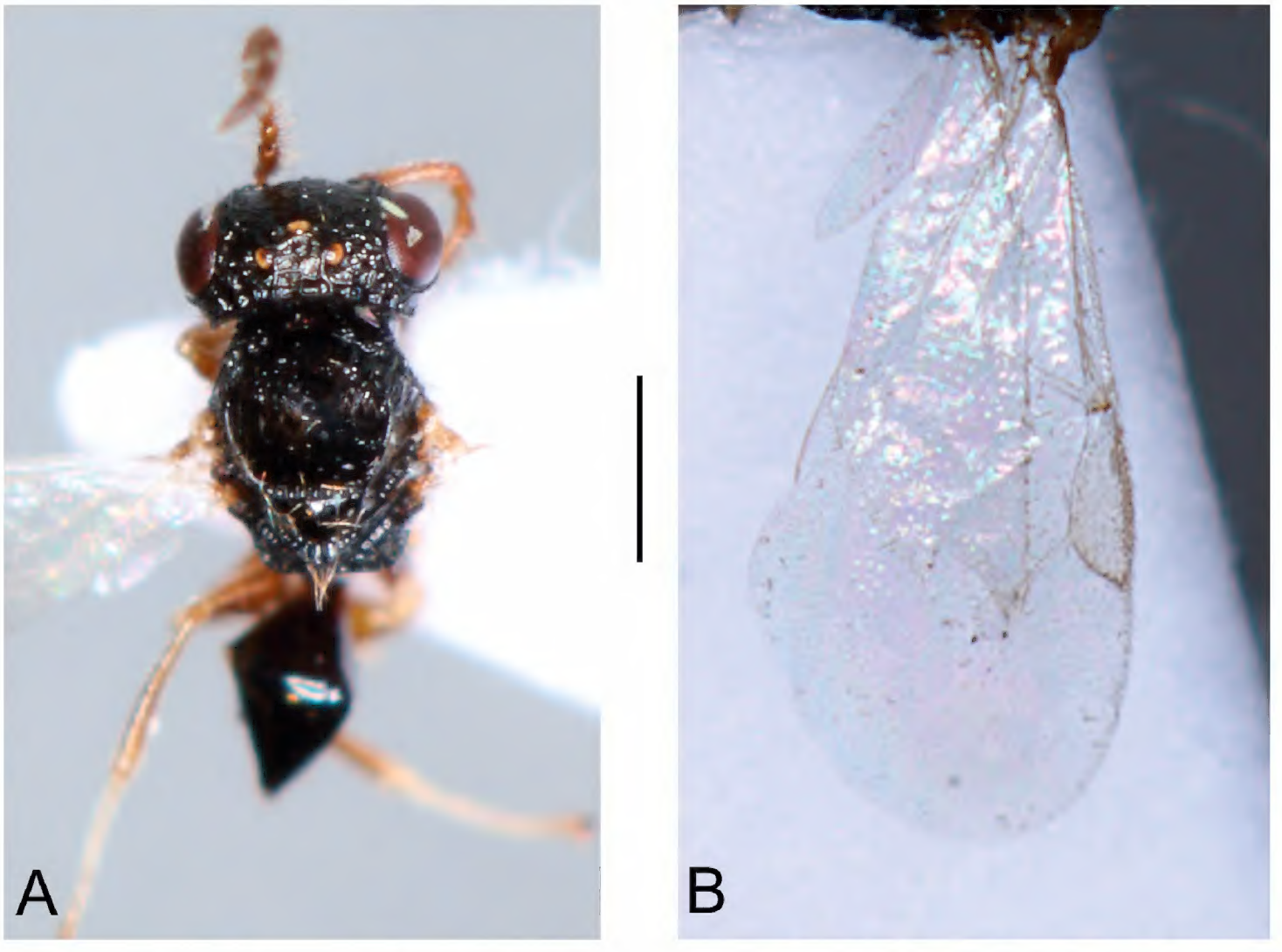

Figure 2. *Anteon huettingeri* Olmi, Xu & Guglielmino, sp. n.: **A** dorsal side **B** forewing. Scale bar = 0.67 mm (**A**), 0.41 mm (**B**).

Etymology. The species is named after the collector, Dr Ernst Hüttinger.

Remarks. Because of the antenna filiform, the scutum neither rugose nor sculptured by irregular keels, the posterior surface of the propodeum without longitudinal keels, the paramere without distal inner process, the new species is similar to *A. borneanum* Olmi, 1984, *A. insertum* Olmi, 1991, *A. jurineanum* Latreille, 1809, *A. krombeini* Olmi, 1984, *A. sarawaki* Olmi, 1984, *A. thai* Olmi, 1984 and *A. yasumatsui* Olmi, 1984. The main difference between *A. huettingeri* and all other species is centered on the structure of the inner side of the paramere (with many sensorial processes in *A. huettingeri* (Fig. 1); without sensorial processes in the other species (Plates 20 C, 30 D, 31 C, 31 D, 32 C, 43 B, 48 A, 50 E in Xu et al. 2013)). In the key to the males of Oriental *Anteon* published by Xu et al. (2013), the new species can be included by replacing couplet 9 as follows:

9	Inner side of paramere with many small sensorial processes (Fig. 1) ..... ***A. huettingeri* Olmi, Xu & Guglielmino, sp. n.**
–	Inner side of paramere without sensorial processes (Plates 20 C, 30 D, 31 C, 31 D, 32 C, 43 B, 48 A, 50 E in Xu et al. 2013) ..... **9'**
9'	Scutum granulated..... **10**
–	Scutum punctate, or unsculptured, not granulated; occasionally scutum partly reticulate rugose **11**
10	Paramere much shorter than penis (Plate 20C in Xu et al. 2013)..... ..... ***A. borneanum* Olmi**
–	Paramere about as long as penis (Plate 31C, D in Xu et al. 2013)..... ..... ***A. jurineanum* Latreille**
11	Head punctate, unsculptured among punctures..... ***A. insertum* Olmi**
–	Head granulated, or rugose, or with irregular keels **12**
12	Head dull, smooth, granulated..... ***A. yasumatsui* Olmi**
–	Head shiny, rugose, with areolae and irregular keels **13**
13	Notauli almost reaching posterior margin of scutum ..... ***A. sarawaki* Olmi**
–	Notauli reaching at most 0.5 length of scutum **14**

Conclusion

Xu et al. (2013) recorded 71 species of Dryinidae from Thailand. They belong to the following genera: *Aphelopus* Dalman, 1823 (seven species), *Crovettia* Olmi, 1984 (one species), *Anteon* Jurine, 1807 (26 species), *Deinodryinus* Perkins, 1907 (two species), *Bocchus* Ashmead, 1893 (three species), *Thaumatodryinus* Perkins, 1905 (two species), *Dryinus* Latreille, 1804 (13 species), *Pseudodryinus* Olmi, 1991 (one species), *Neodryinus* Perkins, 1905 (five species), *Echthrodelphax* Perkins, 1903 (three species), *Haplogonatopus* Perkins, 1905 (one species) and *Gonatopus* Ljungh, 1810 (seven species). With the description of the above new species the number of species now known in Thailand is 72.

In comparison with the 193 species recorded in China by He and Xu (2002) and the 62 and 40 listed respectively in India and Laos (Xu et al. 2013), the dryinid fauna of Thailand is poorly known. Some genera such as *Gonatopus* (with only seven species listed) are clearly under studied.

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